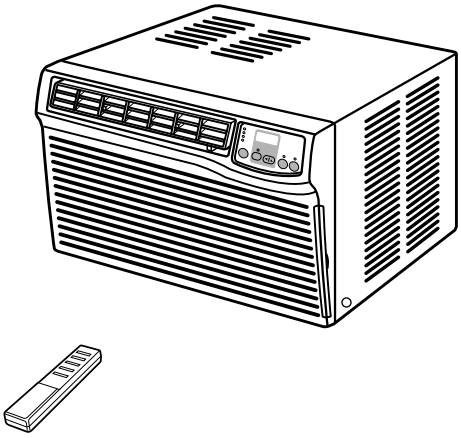
SHARP
SUPPLEMENTAL SERVICE MANUAL

S32//AFR14CX/



AIR CONDITIONER

MODEL AF-R140CX

In the interest of user-safety the air conditioner should be restored to its original condition and only parts identical to those specified should be used.

This is supplemental Service Manual for Model AF-R140CX.
This model is quite similar to base model AF-R100CX/R120CX. Use this supplemental manual together with the Base Model Service Manual (Refer No. is S3203AFA12CX/) for complete operation, service information, etc..

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SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

SPECIFICATIONS

Models		AF-R140CX
Cooling capacity	BTU/h	13500
Moisture removal	Pints/h	3.3

ELECTRICAL DATA

Phase		Single
Rated frequency	Hz	60
Rated voltage	Volts	115
Rated current	Amps	12.0
Rated input	Watts	1370
Power factor	%	99
EER	BTU/Wh	9.8

COMPRESSOR

Type	(Hermetically sealed rotary type)
Model, Remarks	44B135HX1EF, ????W

REFRIGERANT SYSTEM

Evaporator	Slit fin, Grooved tube, Ø 9.53 mm Hair pin
Condenser	Louver fin, Grooved tube, 7mm Hair pin
Control O.D. x I.D. x Length x Q'ty(mm)	Capillary tube 2.7 x 1.2 x 800 x 2
Refrigerant volume R-22(OZ)	21.2(Factory charged)

NET DIMENSIONS

Width Height Depth	inches(mm)	22-1/16(560) x 14-3/4(375) x 24-5/16(617)
Net Weight	lbs	86

GROSS DIMENSIONS

Width Height Depth	inches(mm)	25-25/32(655) x 18-29/32(480) x 27-7/8(708)
Gross Weight	lbs	97

FAN SYSTEM

Indoor side(Evaporator)		Centrifugal fan
Outdoor side(Condenser)		Propeller fan
Air flow rate(indoor side)	CFM	(High/Med/Low) 339 / 272 / 233

OTHERS

Safety devices		Compressor: Overload relay Fan motor: Internal thermal protector
Air filter		Polypropylene net
Power cord length	ft	4.3
Power plug type		125V, 15A

ELECTRICAL PARTS

Running capacitor	370V-50µF
Fan capacitor	250V-6µF x 1, 250V-7µF x 1
Thermistor	15k at 78˚F
Fan motor	ARS035ZREA/SHP(MLB026)
Overload relay	MRA98693-12007

WIRING DIAGRAM

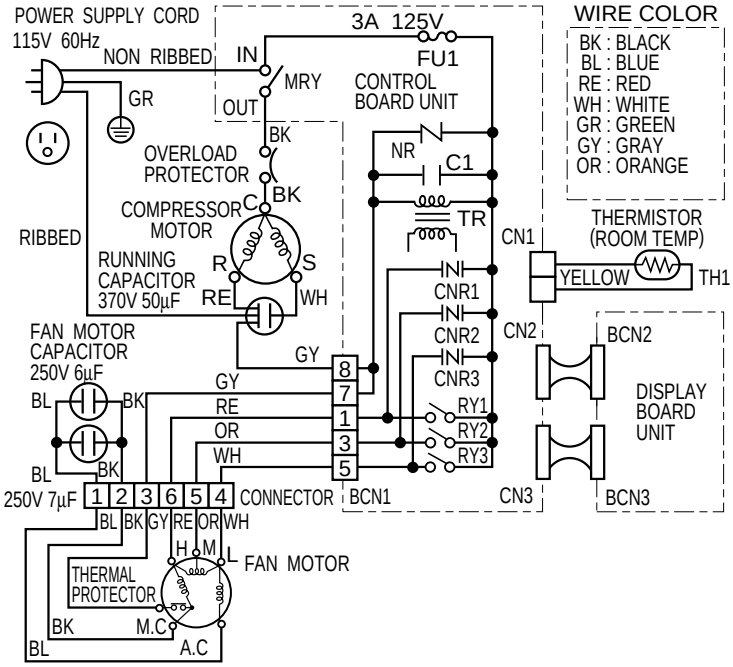


Figure W-1

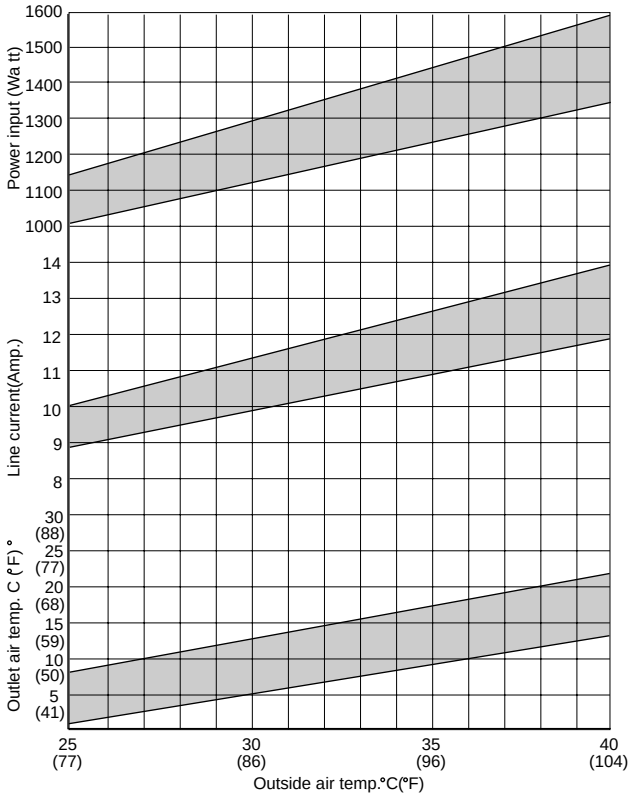
RUNNING CONDITION

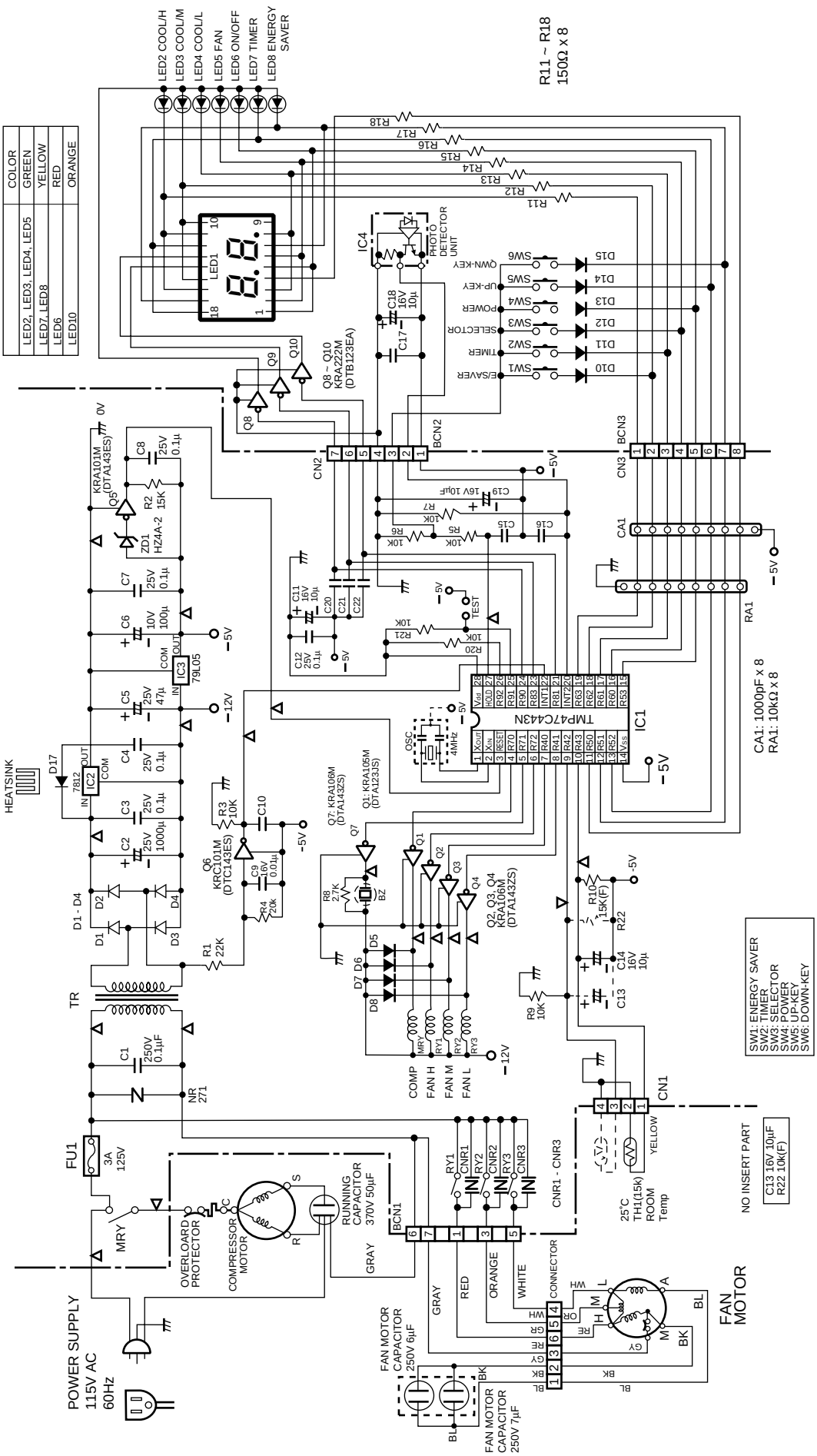
Note:

1. Select mode of the Running Condition of a Room Air Conditioner.
   SELECTOR ..... HIGH COOL
   TEMPERATURE ..... 64°F
2. Data of Performance Curve is measured between 40RH% and 70RH%.
   If you measure the Room Air Conditioner above or below this rating, the data may miss the range of the performance curve.
3. Outlet air temp. is influenced by the method of measurement. Measurement examples are shown.
4. Use power input data when checking the Running Condition.

RUNNING CONDITION FOR

PERFORMANCE CURVE




LED2 COOL/H
LED3 COOL/M
LED4 COOL/L
LED5 FAN
LED6 ON/OFF
LED7 TIMER
LED8 ENERGY SAVER
R11 ~ R18
150Ω x 8
LED2, LED3, LED4, LED5 GREEN
LED7, LED8 YELLOW
LED6 RED
LED10 ORANGE
LED1
IC4
PHOTO DETECTOR UNIT
SW1 E/SAVER
SW2 TIMER
SW3 SELECTOR
SW4 POWER
SW5 UP-KEY
SW6 DOWN-KEY
D10
D11
D12
D13
D14
D15
Q8 ~ Q10
KRA222M
(DTB123EA)
Q8
Q9
Q10
BCN2
BCN3
CN2
CN3
CA1
RA1
CA1: 1000pF x 8
RA1: 10kΩ x 8
TMP47C443N
IC1
OSC
4MHz
TEST
Q1: KRA105M
(DTA123S)
Q2, Q3, Q4
KRA106M
(DTA143ZS)
Q7: KRA106M
(DTA143ZS)
Q6
KRC101M
(DTC143ES)
Q5
KRA101M
(DTA143ES)
ZD1
HZ4A-2
IC2
7812
IC3
79L05
D1 - D4
D17
HEATSINK
TR
NR
271
FU1
3A
125V
MRY
OVERLOARD PROTECTOR
COMPRESSOR MOTOR
RUNNING CAPACITOR
370V 50µF
FAN MOTOR CAPACITOR
250V 6µF
FAN MOTOR CAPACITOR
250V 7µF
FAN MOTOR
POWER SUPPLY
115V AC
60Hz
BCN1
CNR1 - CNR3
CONNECTOR
GRAY
RED
ORANGE
WHITE
BL
BK
GY
RE
WH
GR
BR
YELLOW
25°C
TH1(15k)
ROOM
Temp
NO INSERT PART
C13 16V 10µF
R22 10k(F)
CN1
SW1: ENERGY SAVER
SW2: TIMER
SW3: SELECTOR
SW4: POWER
SW5: UP-KEY
SW6: DOWN-KEY
CA1: 1000pF x 8 (CAPACITOR ARRAY)
RA1: 10kΩ x 8 (RESISTOR ARRAY)
IF NOT SPECIFIED 1/5W, ±5% (RESISTOR)
IF NOT SPECIFIED 50V 1000pF (CAPACITOR)
IF NOT SPECIFIED 1SS133T-72 (DIODE)
: INDICATED POSITION IS FUNCTION TEST POINT

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CABINET AND UNIT PARTS		
1- 1	CMOTLB026JBEZ	Fan motor	1	
1- 2	DCHS-A440JBTA	Base pan ass'y	1	BC
1- 3	DCAB-A094JBTA	Cabinet ass'y	1	BF
1- 4	PSEL-B150JBE0	Cabinet seal	2	AD
1- 5	HPNLCA770JBFA	Control panel	1	AF
1- 6	PSEL-C059JBEZ	Evaporator insulator	1	AD
1- 7	LANG-A459JBWZ	Conecting stay	1	AC
1- 8	LANG-A355JBTA	Top inst. Angle	1	AP
1- 9	LHLD-A482JBFZ	Thermistor holder	1	AE
1-10	CLEV-A035JBKZ	Damper ass'y	1	AE
1-11	NFANPA092JBFZ	Propeller fan	1	AV
1-12	NFANSA030JBFZ	Centrifugal fan	1	AU
1-13	PFILMA116JBEB	Air filter	1	AN
1-14	PFPFPB466JBE0	Insulator	2	AC
1-15	PKESPA082JBTA	Condenser shroud	1	AV
1-16	PKESPA083JBFA	Orifice	1	AQ
1-17	LBND-A046JBE0	Wire fixing band	1	AE
1-18	LCOV-A002JBF0	Shroud cover	1	AM
1-19	PCOV-A320JBP0	Motor cover	1	AC
1-20	PSEL-C057JBEZ	Tube insulator	1	AD
1-21	LANG-A356JBTA	Bottom inst. Angle	1	AE
1-22	PSKR-A207JBFA	Bulkhead	1	BA
1-23	PSRA-A120JBFZ	Drain tray	1	AE
1-24	TLAB-C273JBRZ	Energy card	1	
1-25	TSPC-E150JBRZ	Name badge	1	
1-26	GWAKPA136JBFB	Louver duct	1	AH
1-27	GWAKPA135JBFB	Front panel	1	AT
1-28	TLABBA110JBRA	SHARP badge	1	AB
1-29	LANGAA038JBFB	Left closure frame	1	AK
1-30	LANGAA039JBFB	Right closure frame	1	AK
1-31	PPLTPA013JBFB	Closure	2	AL
1-32	PSPRCA010JBE0	Spring	1	AD
1-33	TLABKA564JBE0	Number card	1	AC
1-34	PFPFPB446JBE0	Insulator	1	AC
1-35	CWAK-C095JBKZ	Front panel ass'y	1	AX
1-36	MJNTPA074JBFB	Louver link	2	AC
1-37	MLOV-A252JBFB	Vertical louver A	4	AB
1-38	MLOV-A253JBFB	Vertical louver B	2	AC
1-39	PSEL-B360JBE0	Cabinet insulator	1	AB
1-40	PSEL-C064JBEZ	Drain tray insulator	1	AC
1-41	PSEL-B361JBE0	Cabinet insulator	2	AE
1-42	PSEL-B367JBE0	Cabinet insulator	2	AC
1-43	PSEL-B516JBE0	Base pan insulator	2	AC
1-44	PFPFPB443JBE0	Insulator	1	AC
1-45	PSEL-C063JBEZ	Bulkhead insulator	1	AC
1-46	PSEL-B519JBE0	Angle insulator	1	AD
1-47	PSEL-C056JBEZ	Motor seal	1	AE
1-48	LHLDW0367JBE0	Wire holder	1	AA
1-49	LHLDW0368JBE0	Wire holder	1	AA
1-50	PFPFPB528JBE0	Panel insulator	1	AD
1-51	PSEL-A432JBE0	Damper insulator	1	AC
1-52	PFPFPB611JBE0	Insulator	1	AG
1-53	PSEL-B532JBE0	Damper insulator	1	AB
1-54	PSEL-B394JBE0	Panel insulator	1	AB
1-55	PSEL-B560JBE0	Damper insulator	1	AB
1-56	LANG-A507JBWZ	Fan motor angle	1	AH
1-57	HPNLCA771JBEA	Decoration panel	1	AM
1-58	PSEL-B366JBE0	Panel insulator	1	AD
1-59	PSEL-C104JBEZ	Insulator	1	AB
1-60	PSEL-C105JBEZ	Cabinet insulator	1	AE
1-61	LHLDW0363JBE0	Wire holder	1	AA
1-62	PSHE-A191JBEZ	Sheet	1	AE
1-63	LHLD-A356JBE0	Wire holder	1	AE
		CONTROL BOX PARTS		
2- 1	LBNDKA096JBWZ	Capacitor clamp	1	AC
2- 2	LPLTMA128JBW0	Control box cover	1	AK
2- 3	DPLT-A047JBW0	Cont. box angle ass'y	1	AS

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
2- 4	QACC-A263JBZZ	Power supply cord	1	AT
2- 5	RH-HXA011JBZZ	Thermistor	1	AL
2- 6	QW-VZD104JBE0	Lead wire	1	AD
2- 7	QW-IZA036JBZZ	Lead wire	1	AS
2- 8	RC-HZA256JBE0	Fan motor capacitor	1	AM
2- 9	RC-HZA407JBZZ	Running capacitor	1	AY
2-10	TLABCB621JBRZ	Wiring diagram	1	
2-11	DPWBFA193JBKZ	Control board unit	1	BC
2-12	PSPA-A084JBE0	Spacer	2	AC
2-13	PSPA-A085JBE0	Spacer	1	AC
2-14	QFS-AA048JBE0	Fuse	1	AB
2-15	LBND-A042JBE0	Wire fixing band	4	AC
2-16	RC-HZA443JBZZ	Fan motor capacitor	1	AM

CYCLE PARTS

3- 1	PCMPRA373JBEZ	Compressor	1	CE
3- 2	PPIPCF655JB1Z	Discharge tube	1	AR
3- 3	PPIPCF654JB1Z	Suction tube	1	AS
3- 4	RHOG-A198JBZZ	Overload relay	1	AT
3- 5	DCON-A167JBKZ	Condenser ass'y	1	BT
3- 6	PEVA-A424JBEZ	Evaporator	1	BQ
3- 7	GLEG-A105JBE0	Compressor cushion	3	AF
3- 9	PCOV-A321JBE0	Terminal cover	1	AR
3-10	PSEL-A971JBE0	Terminal gasket	1	AN
3-11	DCPY-A234JBKZ	Capillary tube ass'y	1	AW
3-12	MSPR-A129JBE0	Cycle spring	1	AD
3-13	PGUM-0034JBE0	Damper rubber	1	AF
3-14	MSPR-A136JBE0	Protector spring	1	AF
3-15	LPLTMA114JBW0	Condenser stay	2	AH

ACCESSORY PARTS

4- 1	TINSEA320JBRZ	Operation manual	1	AD
4- 2	PSEL-A349JBE0	Window insulator	1	AE
4- 3	PSEL-A350JBE0	Window insulator	1	AD
4- 4	PSEL-B365JBE0	Window insulator	1	AD
4- 5	TCAD-A351JBEZ	Consummer card	1	AB
4- 6	DX-BZA027JBK0	Screws kit	1	AE
4- 7	CRMC-A526JBEZ	Remote control	1	AT
4- 8	LHLD-A389JBFB	Controller holder	1	AE
4- 9	SSAKAA017YDE0	Bag	1	AC
4-10	UBATUA027JBE0	Battery pack	1	AE

PACKING PARTS

5- 1	CPADBA688YDK0	Top pad ass'y	1	AL
5- 2	CPADBA009JBK0	Bottom pad ass'y	1	AT
5- 3	SPAKCB061JBEZ	Packing case	1	
5- 4	SSAKHA314YDE0	Protect	1	AD
5- 5	PPAK-A007JBE0	Inner packing	1	AG
5- 6	TLABMA309JBRZ	Feature card	1	AB
5- 7	SSAKAA053YDE0	Bag	1	AB

SCREWS AND NUTS

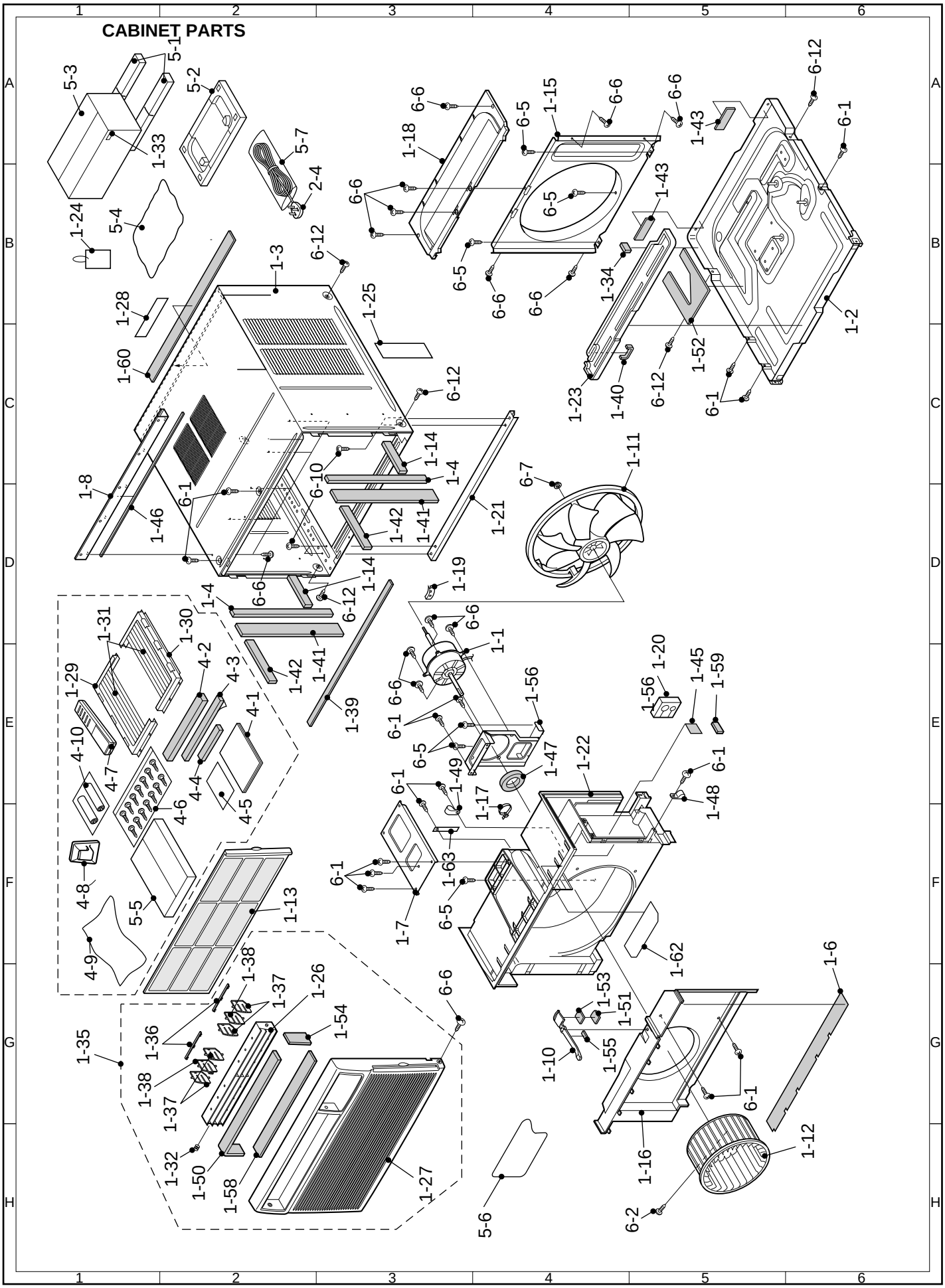
6- 1	XTTSD40P12000	Tapping screw	22	AA
6- 2	LX-BZA236JBE0	Special screw	1	AC
6- 3	XHTSD40P08000	Tap tight screw	8	AA
6- 4	LX-NZA136JBE0	Special nut	2	
6- 5	LX-HZA001JBE0	Special screw	6	AB
6- 6	XCTSD40P10000	Tapping screw	19	AA
6- 7	LX-NZA074JBE0	Special nut	1	AB
6- 8	LX-NZA028JBE0	Special nut	3	AB
6- 9	XTPSD40P08000	Tapping screw	3	AA
6-10	XCTSD40P06000	Tapping screw	16	AA
6-11	XBPSD40P12J00	Machine screw	2	AB
6-12	LX-CZA038WRE0	Special screw	6	AA
6-13	XHTSD40P10000	Tap tight screw	2	AA
6-14	XTPSD40P12000	Tapping screw	2	

HOW TO ORDER REPLACEMENT PARTS

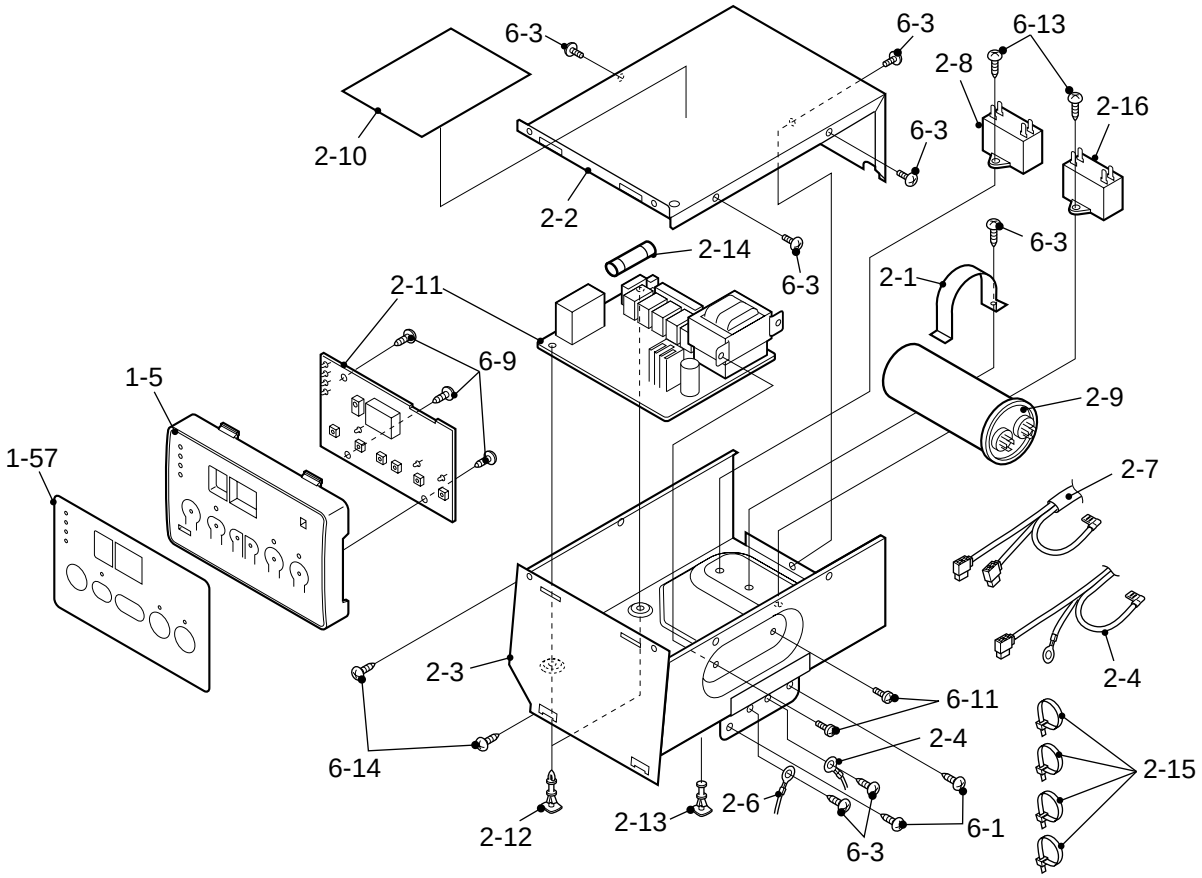
To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

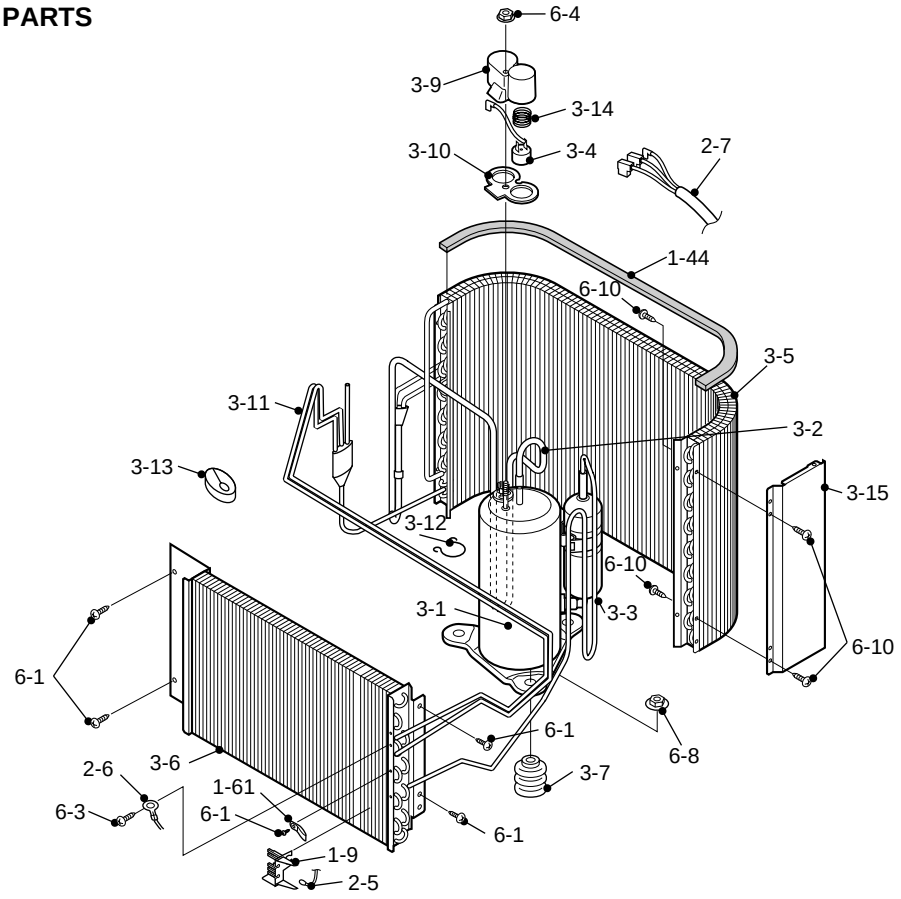
CABINET PARTS



CONTROL BOX PARTS



CYCLE PARTS



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